The sections are divided into twelve subsections under which are arranged the fifty-seven species and thirteen varieties.

Dr. Ownbey's approach to the problems in *Calochortus* from the viewpoint of herbarium study, extensive field work, garden cultures and cytological investigation gives his work a definitiveness possessed by too few monographs. While some botanists may feel that he has admitted to specific rank several entities that might better have received subspecific status, on the whole his decisions seem to be based on a firm foundation of evidence both from comparative morphology and from geographic distribution.

The publication of seven new species and ten new varieties should arouse keen interest in the further study of local areas. Of great significance in this connection is the speciation that has taken place in the Siskiyou Mountains of southern Oregon and northern California where four local, very distinct, rarely collected species are found. This area should continue to be a fertile collecting ground.

Because of the cytogenetic approach and the fact that Dr. Ownbey is now working in the west where garden cultures and field studies may be carried on we await with great interest any additional developments in the phylogenetic analysis of this genus.—John L. Morrison, Department of Botany, University of California, Berkeley.

The Flora of Whatcom County, State of Washington. By W. C. Muenscher. Pp. 1–134, with 10 figures and 1 table. William A. Church Company, Ithaca, New York, 1941. Published by the author.

A county flora is so rarely prepared for a portion of any of the western states that the appearance of a less excellent volume than the present one evokes especial comment.

The twenty-three hundred square miles comprising Whatcom County occupy the northernmost county of the Pacific Coast and extend in altitude from near sea-level on Puget Sound to 10,750 feet at the summit of Mount Baker, one of the principal peaks of the Cascade Range. With the coastal hills in the Transition life zone, and timberline on Mount Baker at only 6000 feet, all of the boreal zones are thus represented in a relatively small altitudinal range as well as in a small area. With these facts in mind, one will be less astonished at the inclusion of 1042 species and varieties. The author contributed an earlier catalogue of the same area to "Muhlenbergia" in 1914, and has noted additions to this original list, chiefly in "Torreya" and Madroño, during the subsequent years. A substantial portion of the list is owing to the writer's predilection for aquatic and introduced plants, both of which are too likely to be overlooked by collectors. Although the plant records of the present book are based primarily upon Dr. Muenscher's own collections, the first set of which is preserved

in the herbarium of Cornell University, he has consulted the collections of others as well.

The diversity of topics treated in the introduction reflects the author's wide botanical interests. An interesting feature is the presentation of lists of those species characteristic of such distinctive habitats as alpine meadows, salt marshes, gravelly prairies and coastal cliffs. A brief account of the zonation of vegetation is handsomely illustrated by carefully selected photographs. A conveniently classified list is offered of plants deemed suitable for cultivation.

In the annotated catalogue, which constitutes two-thirds of the book, the genera and species are alphabetically arranged under the systematically ordered families. Neither keys nor descriptions are provided. The abundance and characteristic habitats of each species are described and authenticating specimens are cited for each. It thus becomes possible for the perennially skeptical specialist to check the identity of every item attributed to the group with which he is especially concerned.

The taxonomic treatment is, on the whole, conservative, and pretty thoroughly up to date. The current bitter controversy between the advocates of "subspecies" and the proponents of "varieties" is met by calling all subspecific entities, except forms, "varieties," and retaining the original authors of the trinomials, regardless of whether they designated the subspecific or varietal category. This has the curious effect of attributing "varieties" to such authors as Hall and Clements, Piper, and Pennell, which will probably bring down the wrath of both factions. There is also some inconsistency in the capitalization of specific names, which will doubtless provide ammunition for the arsenal of those advocating uniform decapitalization.

This flora is, happily, much more than an unusually complete and attractively prepared catalogue of the plants of one western county. Because of the wide range of habitats and altitudes contained in this one political division, it is essentially a catalogue of the flora of western Washington. It is to be hoped that the completion of this very satisfactory study will encourage the preparation of other much needed local floras throughout the west.—L. Constance, Department of Botany, University of California, Berkeley.

Experimental Studies on the Nature of Species. I. Effect of Varied Environments on Western North American Plants. By Jens Clausen, David D. Keck and William M. Hiesey. Carnegie Institution of Washington publication 520. Pp. vii + 452. 1940. Paper, $3.50. Bound, $4.50.

This stimulating volume represents the application of methods in experimental taxonomy to an understanding of the involved intrarelationship of several complicated groups of species. The application of the method to specific problems serves in this case